MSG-079 C-BML Workshop

Farnborough UK, Feb 24-25 2010

Coalition Battle Management Language

Goals and Objectives

MSG-048

Report Documentation Page

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MSG 048 - Objectives

A. Evaluate the available specification of a Coalition BML (from Simulation Interoperability Standards Organization (SISO) or Nations)

B. Assess operational benefits to C2 and M&S communities

In order to support these objectives, the program is divided in four parts

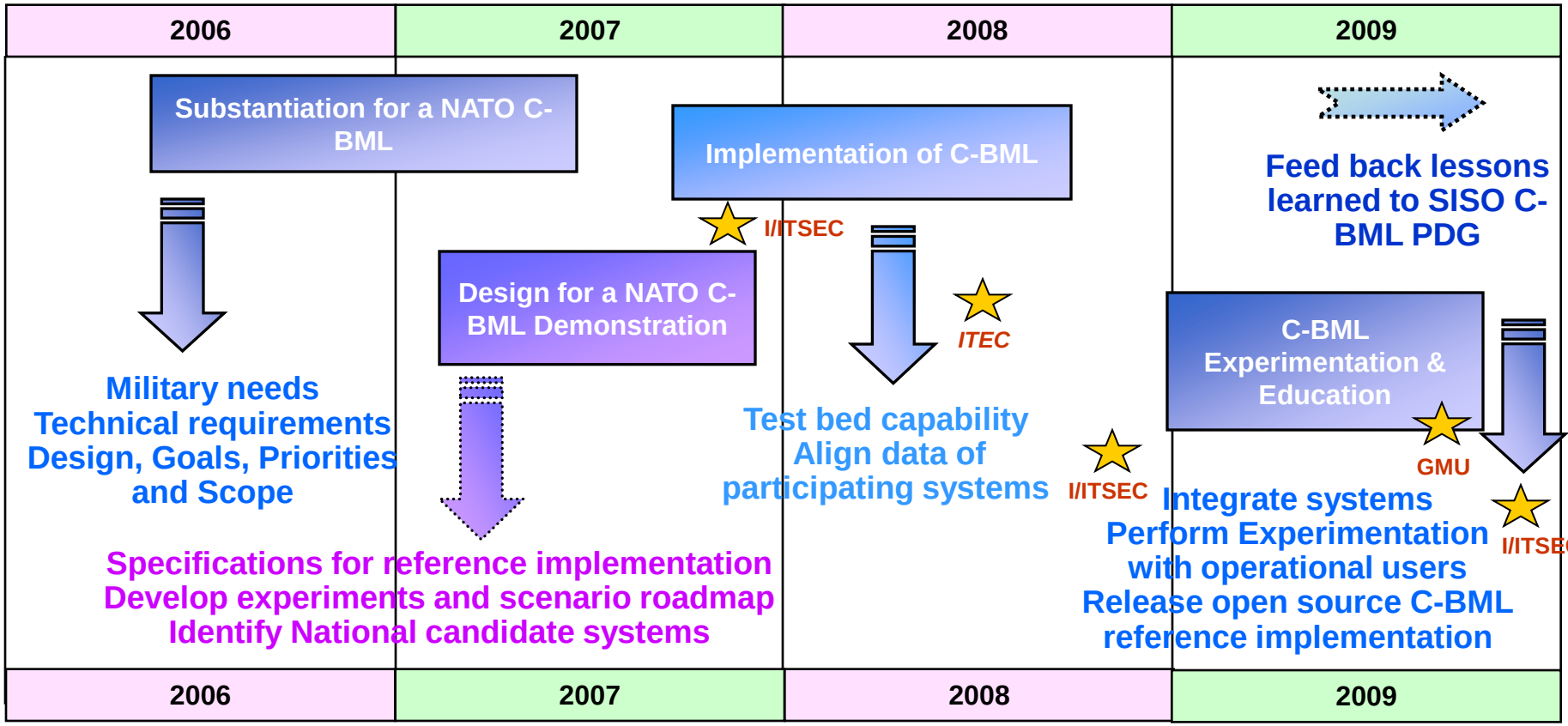
1. Substantiation of the requirements for NATO C-BML
2. Design for a NATO C-BML demonstration
3. Implementation of C-BML interface standard in C2 and M&S systems and services
4. Conduct experimentation and assessments and provide a final demonstration

Background

Strong support from RTA/NMSG

- **ET-016** started in 2005 - Demonstrated BML technical feasibility, showed benefits to NATO bodies and gathered additional Nations
- **MSG-048** started in 2006 – High expectations from nations to leverage national studies on C2-simulation interoperability and standardization
- **SISO** C-BML PDG started in 2006 – Development of a standard for BML

MSG 048 - Planning



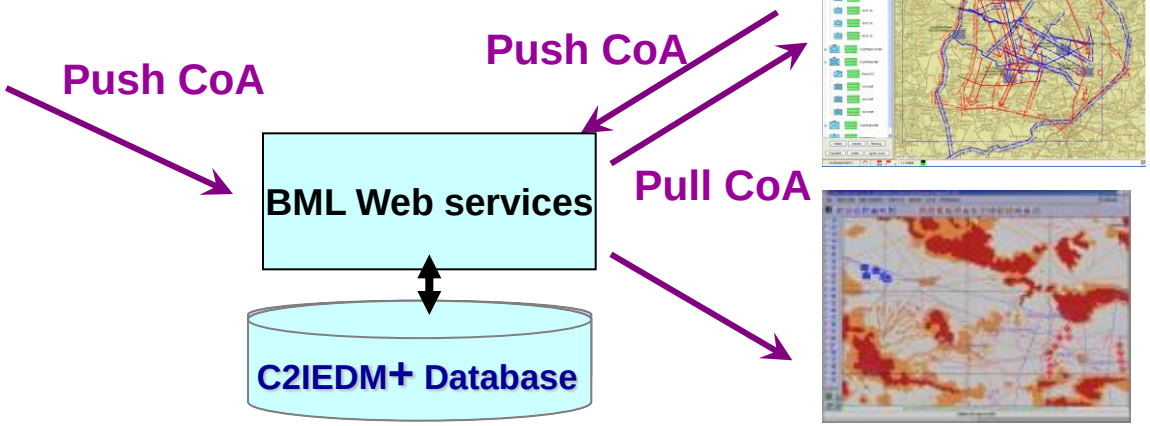
MSG 048 - Achievements

- Share knowledge, experience and advertize
  - IITSEC 2007, 2008 and 2009 technical demonstration in NATO booth
- Perform operational assessment
  - Conduct 2009 experimentation involving military SMEs
  - Demonstrate the efficiency of C-BML with multiple C2 & simulations
  - Collect via MOM & MOP end users required improvements
- Provide information and education on NATO C-BML
  - Conduct a 2010 NMSG symposium/workshop

ET 016 – Demonstration (2005)

- Demonstrate the feasibility of a C2IEDM Web Services interface between national C2IS and M&S systems
- Identify limitations of current standards that must be addressed by MSG-048
- Build experience to help structure MSG-048

CAPES
COA Definition



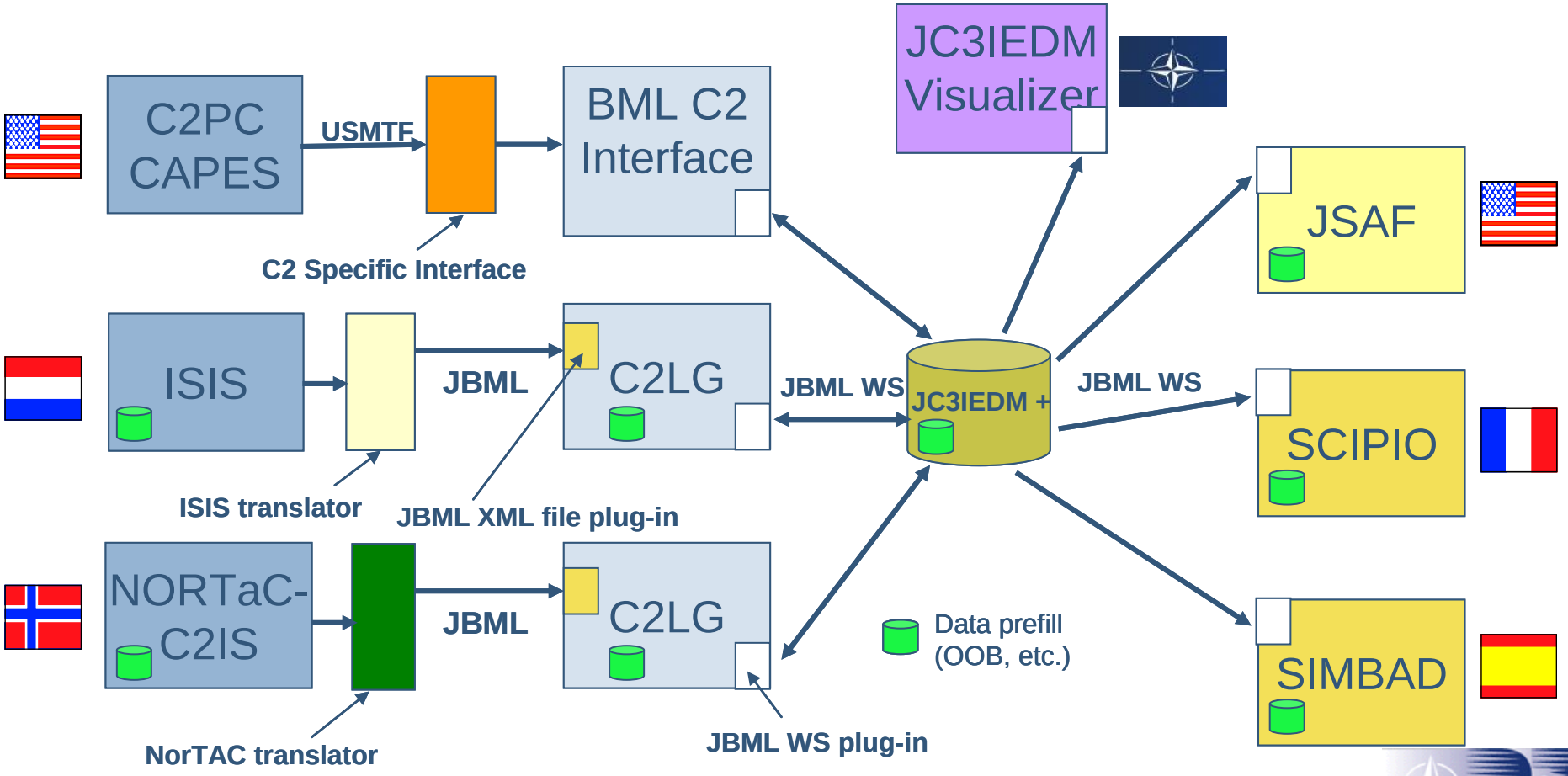
APLET
COA Def.
Simulation

JSAF
Simulation

MSG 048 - 2007 Experiment Objectives

- Demonstrate C2-Sim interoperability
  - 8 systems/components (from 5 different Nations)
  - Parallel work orchestrated through the use of JBML
- Show simulated units can be commanded directly
  - The commander (or the operator of his C2 system) requires NO knowledge about the simulation system
- Demonstrate the potential of C-BML
  - Easy to expand and to adjust to new kinds of tasks

MSG 048 - 2007 Experiment Architecture



MSG 048 - 2007 Experiment Lessons learned

- It requires significant effort from participating Nations to bring, adapt, integrate systems together in a short period of time

  Internet implementation made this task possible and has given Nations the capability to test before integration and to be more effective

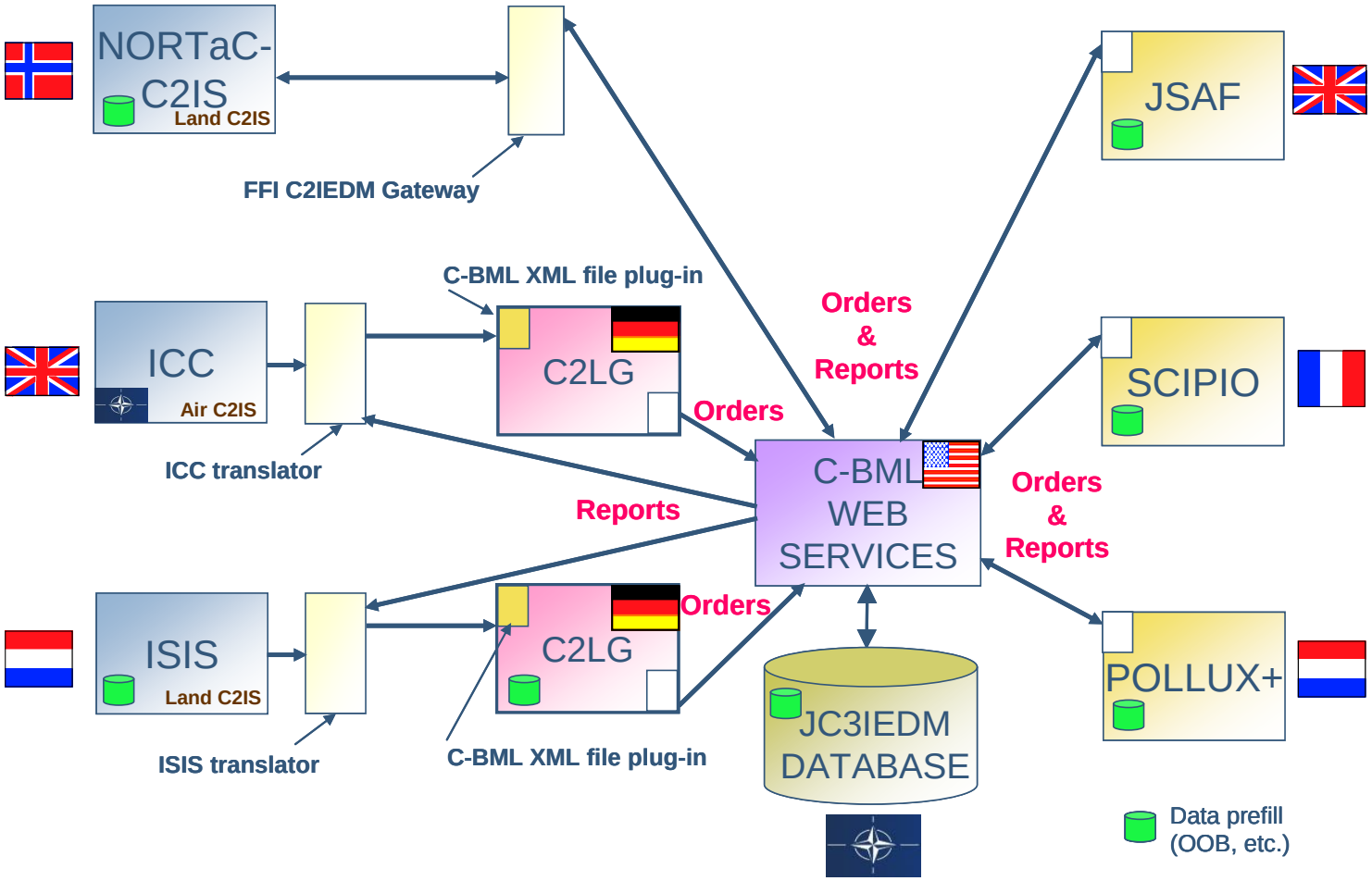
  Simulations used were augmented to behave as automated as possible

- In principle all Nations are now technically able to share the same information
- Military SME involvement from Nations is key in the development of consistent scenarios, shared understanding of doctrine and military terminology

MSG 048 - 2008 Experiment Objectives

- Demonstrate bi-directional C2-Sim interoperability
  - 8 systems/components (from 6 different Nations)
  - Parallel work enabled by IBML WS and JBML Order
- Improvements/progress since 2007
  - Automated generation of situation reports (spot and ground truth) from simulations using IBML reports
  - Display reports in C2IS that enabled the commander to create new orders or FRAGO as required
  - Reduction of “man-in-the-loop”; the C2IS interface being able to translate orders according to the C-BML grammar
  - Introduction of air operations that proves multiple domains JBML capabilities

MSG 048 - 2008 Experiment Architecture



MSG 048 - 2008 Experiment Lessons learned

- Time Management
  - C2IS displays a variety of status with different time-stamps
  - There is a time delay in availability of information
  - Define expected performance of the web services
- Reporting frequency
  - Is strongly linked with simulation speed
  - Could overload C2IS
  - Report filtering: publish and subscribe mechanism for units and sender
- Simulation initialization process should be included
  - Create a specification on how the simulation uses the WS

MSG 048 – 2006 … 2009

- Define Program of Work
- Develop substantiation of requirements
- Liaise with SISO C-BML PDG
- Learn from common experiments
- Refine C-BML specifications
- Identify and overcome stumbling blocks
- Advertise C-BML
- Enlarge community of interest
- Improve knowledge and guide future works
- Develop a vision addressed by MSG-085

MSG-048: working to make BML a reality

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